

surgeons wonder at the amount of shock from a comparatively slight operation.

Epinephrin solution has been used in pneumonia with particularly satisfactory results; just before the crisis, when the heart shows signs of exhaustion and the blood pressure is far below normal, the intravenous infusion of epinephrin in physiological salt solution, 1 to 100,000, will raise the blood pressure to normal and hold it there for about twelve hours.

Sajous states that the long line of research into the physiological action of some forty of the more important drugs and venoms has brought out a similarity of the action of poisons, including toxalbumins and venoms, to the phenomena that ensue after the experimental removal of both adrenals or of hemorrhage into these organs. Sajous undoubtedly refers to the depression and chemical shock to the system coincident with the absorption of the poison, so that epinephrin solution would be indicated to alleviate the shock. Again, Klapp has shown that epinephrin inhibits absorption, another reason for its use in poisoning.

Josue has suggested that arterial atheroma might be due to the pathological action of the suprarenals when he observed that high tension which is induced by the injection of epinephrin. This theoretical assumption was corroborated by experimental research, and now he announces that the necropsy of three subjects with arterial atheroma still further confirms it. All three exhibited the anatomic evidences of hyperfunction of the suprarenal capsules. There will undoubtedly be many adverse reports regarding the use of epinephrin solution in disease of the heart because so few take the trouble to measure the blood pressure before prescribing. Epinephrin is not indicated in conditions of excessively high blood pressure.

Another gland which is now being investigated as to its use in the animal economy is the thyroid; it is probable that an extract will be separated from this gland that will rival the adrenal in its importance; for while it has been shown that the adrenal is our most powerful vasomotor and cardiac stimulant, I believe an extract will be obtained from the thyroid that will be a physiological opposite of epinephrin, and be of much use in those conditions of excessively high blood pressure such as are found in arteriosclerosis, some forms of nephritis, diabetes mellitus and other nutritional diseases.

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**Duty to the State.**—I would earnestly plead, in addressing this audience, and especially the members of the high and honorable profession which has given this gift to the nation, that you never for one moment allow yourselves to forget that the well-being of the Republic ultimately depends on the way in which, as a rule and habitually, the best citizen of the Republic does his duty to the State; and that we have a right not merely to expect, but to demand, from our hardest worked men, from the leaders of the great professions, the full performance of that public service, which consists in a zealous, intelligent and fearless performance of the ordinary duties of public life by the ordinary private citizen.—President Roosevelt in accepting the Rush Monument.

## REPORT OF COMMITTEE ON MEDICAL EDUCATION AND LEGISLATION.\*

By H. S. ORME, M. D., Los Angeles.

AS TO the topic of Medical Education, it is our opinion that its present status in California is reasonably satisfactory. To the older members of our profession it is especially apparent that the means and results of instruction in the schools, within the last quarter-century, have grown far beyond what was expected. The action of the National and State medical associations in demanding a higher standard of proficiency, deserves the credit for this improvement, which has been gradually effected by extending the period of medical study from a nominal three-year course, of four months (generally an actual two-year duration) to a four-year course, with lectures during the greater part of all the years. Instead of merely a repetition of the annual didactic lectures, a graded course of lectures, combined with extensive laboratory work on practical lines, has been evolved, and clinical instruction has been magnified.

The emphasis laid upon laboratory and clinical instruction cannot be exaggerated, because of the need of equipment for immediate service. The conferring of the degree carried with it inferentially the elevation of the student to an equality with his teachers. While in fact this cannot be, yet in so far as concerns responsibility it may be. For in time of urgent need, whether medical or surgical, the most accessible help is first in demand. Hence it would seem wise, if it could be made practicable, as has been recently suggested by Drs. Osler, Holmes and others, before a license shall be granted by the State Board to require a hospital experience of six to twelve months.

It is within the memory of some here present, when there was no test of education preliminary to medicine, except first signing the college register and finally offering a thesis, which might not have been the work of the candidate. Under the system of forty years ago, it was indeed possible to earn legitimately a medical diploma without knowing A from B, though no instance is known.

Right here is the proper place to observe that the greatest defect in the equipment of medical men to command the respect and serve the wants of the communities where they live, is found rather in their general education than in their professional training. The nominal requirement of a high-school diploma, or its equivalent, would for the present be satisfactory; but there is good reason to believe that this condition is greatly relaxed. The explanation is, that medical examining boards leave the matter to the schools, and the professors are mainly dependent on student tuitions as compensation for their services.

It is both desirable and practicable that our profession should compare favorably with the legal and clerical in general education and culture; but in actual fact we have always ranked somewhat lower. The contrast is less marked now than it was formerly, but it will be our own fault if such distinction continue. The remedy is plain, but the schools should not be expected to apply it. The Board of Medical Examiners should be made responsible for the preliminary education of medical students, as well as for their professional acquirements, and this part of their duties should be discharged before registration in the schools, as is the case in England.

A good deal has been said latterly about reciprocity between the several states in respect to medical qualifications. California has already taken a right step in authorizing our medical board to pursue this course with other boards, and in time it may become custom-

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ary. In connection with the annual meeting of the American Medical Association there might be formed a joint organization of State Medical Boards to agree upon some plan for uniformity. In the course of a few years it could be put in working order, so that physicians migrating to other states need not be obliged to undergo the cost and trouble of renewed examination.

As to medical legislation, it is our opinion that the most pressing need is to make effectual the provisions already enacted. Various unprofessional acts are already defined as felonies and misdemeanors, but are practically condoned, inasmuch as the penalties cannot be enforced. Prosecution for the crime of procuring abortion is rare, from difficulty of obtaining proof, and conviction still more so, on account of legal technicalities. The unlawful practice of medicine by unregistered persons is open and flagrant, through faulty adjustment of penalties. These are points which require the best legal advice; and, since it happens that eminent lawyers fail to draw up sound testaments for disposition of their own estates, it is not strange that medical legislation should often, if not generally, be found defective.

In legislative bodies composed largely of lawyers, it seems reasonable to the average mind that judiciary committees might contrive to make a larger fraction of their work pass the ordeal of the courts. If law is a science at all, it must be shockingly inexact or monstrously difficult of comprehension; it would be a great advantage, were it practicable, to defer mine the soundness of laws before enactment.

The sale of poisonous drugs, especially opium and its derivatives, and cocaine, needs better safeguards to restrict abuse. Suppression is not expected, but it should be made more difficult to obtain them without the physician's order. Here again the trouble is in enforcement of penalties.

We would recommend repeal of the act of 1891, which provided for the appointment by the Governor, of an Attorney for the State and San Francisco Boards of Health, inasmuch as this office is intended and used solely to pay political debts. At the same session of the legislature, and also the previous session, the State Board of Health favored a bill providing for a State Sanitary Inspector, which passed both senate and assembly, but failed of executive approval. The plea of economy was the transparent subterfuge, in face of approval of the bill for an attorney, not needed for sanitary purposes, and useful only for political speeches. Despite this failure the need for this inspector is even greater than ever, and every legitimate effort should be made to effect his appointment. The National Bureau of Health is out of politics, and ready to give aid in emergency, as it has lately done. As to a sanitary survey of the State of California, it is not less needed now than earlier, but it is evident that political conditions and demands still threaten to interfere with the execution of this, and other important and legitimate functions of the State Board of Health.

Undoubtedly, it is proper that medical, and particularly sanitary legislation should keep somewhat ahead of public opinion; but we must not expect the latter to be led by the former unless they keep in sight of each other. We are therefore of opinion that legislative activity in matters of interest to the medical profession should be conservative, by making more effective what the law-makers have already granted. However, should the State Board of Health offer any further plans for the increase of its efficiency and usefulness, your committee pledge their coöperation in every way possible.

#### DISCUSSION.

Dr. Carl R. Krone, Oakland.—A report like the one we have just listened to cannot fail to enlist the at-

tention and consideration of every member of this body. It is not true, as some would have it, that we are only a scientific body, nor are we here merely for the purpose of renewing social and professional relations. The matters of medical education and legislation should have, and have had, the service and labors of the most prominent and most experienced members of the State Society. We younger men hear with pleasure of the advanced and advancing status of medical education in this, our state, and in other states. The chairman of your committee points to the relaxed condition existing in the requirements for entry upon medical studies. Even the high school diploma does not represent a reliable average of general education, still less a good average of special preparation for the study of the medical sciences. The aims in the individual branches are too high, leaving those who do not succeed in attaining them with a low average of general education. A medical education built upon such a foundation may succeed in the construction of a scientifically erudite mind, but it will have a tendency to leave it far below what is easily attainable to the students of the legal and clerical professions. The student in medicine, then, should have a more liberal education than the student in law or theology. I fear that if the requirements of a high school course were to be determined by a board of medical examiners this course, on account of our present tendency toward scientific medicine, would be arranged with a view to more special and less general education. What we need, however, is not a higher average of education in the classes, but rather the more general attainment of a perhaps lower scientific average of the masses. In Germany the aspiring physician must have the best classic education obtainable outside of a university and the educators of that country do not seem willing to yield to efforts made to bring about changes in this direction. I do not see how the Board of Medical Examiners in this country could be "made responsible for the preliminary education of medical students as well as for the professional acquirements," nor how "this part of their duties should be discharged before registration in the (medical) schools." As a substitute for or as a modification of Dr. Orme's idea, I would suggest that the Board of Medical Examiners hold an examination for students who have finished their second year of college work. Such examination corresponding to the German "Physicum" could embrace physics, chemistry, anatomy, physiology, materia medica and bacteriology, also one or two general branches as electives, such as English literature, Latin, Greek, German, French, botany, zoology, algebra, etc. If this examination be made a requirement for admission to the higher professional or final examination, men of unsatisfactory scientific or general educational attainments could be prohibited from attending a medical course for which they are unprepared. This test would also operate toward the equalization of the qualifications of all students of medicine whatever pathy they might afterward choose to elect. It would avoid the possibility of reproach of undue discrimination of the Board of Examiners against less favored schools, and would prepare a way for the ready interchange of students between the different medical colleges, thus tending to equalize the medical courses at these colleges. As an indirect result it would tend to influence preliminary education before registration in medical schools, as the aspirant would have before him in a not too distant future an examination of definite requirements. Thus Dr. Orme's desideratum would find indirect fulfillment. Interstate reciprocity, so much spoken of and desired, could be more readily accomplished as the "first medical ex-

amination" (physicum) could be made uniform in all states and for all schools, and would thus prove an insurmountable bar to empirics, not by having to pass it repeatedly, but by having to pass it once. It could be made a much more rigorous test than the test before the state boards now is in the branches mentioned.

As to better safeguards against the abuse of poisonous drugs, it seems to me that the unlawful possession of the same and the evidences of unlawful use of the same are, or should be, punishable. Evidences could then be more easily adduced and penalties more readily enforced. When murder is committed with a gun, nobody thinks of accusing the maker or the seller of the weapon of murder, but the one who abuses the same is punished. The alcoholic who offends public decency should be put to hard labor and the rumseller who encourages the abuse of liquor should be fined. The same holds true with regard to other drugs and poisons.

I hope that this meeting will not adjourn before it has formulated a request for a State Sanitary Inspector. The lowered death-rate of large cities is due to preventive medicine. "A commissioner of health of a great modern city is the greatest saver of lives," likewise a State Sanitary Inspector could be the greatest life-saver of our state, and if multiplied by the number of states in the Union, he could be, or rather they could be, indeed savers of life. I humbly and with all my heart endorse every thought which the honored chairman of this committee has brought before you today.

Dr. T. C. Edwards, Salinas.—I have come from the country, and probably we will be more interested in the improvement of medical education than those members in touch with the members in the larger cities. The step of increasing the standard of medical education is certainly a good one, but there might be some improvement made in the manner of determining the older practitioners who should be allowed to practice in our state. In our town two men went before the board and failed, and it seems to me that if I were required to take the examination, I would fail, too, though I suppose that I might be considered an average country doctor. The suggestion of Dr. Krone seems to me to be a good one; that is, that a man be required to pass an examination at the end of the second year; it would relieve him from having to pass that examination again. We naturally get rusty in many of these things. With regard to legislation, that can be handled very easily. There is no question but what, with thorough organization, it could be an easy matter. The average person in the country thinks that when a man asks for some act to be passed in the legislature, he has an ax to grind. There is no selfishness in the questions asked for here by these men, but questions of public good, and we should make the public see that it is for their good, for the prevention of disease; then it will be an easy matter for us to get what we want.

Dr. Wills, Los Angeles.—I did not hear this paper, but I heard the concluding remarks of the last speaker, and I think that if he had been at Sacramento with us he would have found out that you cannot convince the public. It is very hard to convince the general public. They seem to think that they know more than we do.

**Plague in Check.**—It speaks volumes in favor of the policy pursued in San Francisco by the joint health commission—national, state and municipal—in the record of no deaths from the plague in 131 days past; and yet, according to the daily press, there is quibbling over the pay rolls by a committee of the Supervisors.

## ACUTE GASTRO-ENTERITIS.\*

By CHAS. ANDERSON, M. D., Santa Barbara.

IT IS true acute gastro-enteritis, or, as it is now the fashion to call it, gastro duodenal catarrh, cannot be scientifically demonstrated as being a specific and distinct disease; yet from the practitioner's point of view, it is an entity, serious enough to require his most earnest consideration, and demand his most careful treatment and care.

While the greater number of cases occur in children, it is by no means an unknown occurrence in adults, and I believe that it is not at all unusual to have it overlooked or mistaken for other troubles. It is not as common as simple acute gastritis, nor is it so easily brought under control; and though it can hardly be classed as being a highly dangerous disease, it is more to be feared than simple acute gastritis and the mortality is greater.

**Etiology.**—In children it is most frequently caused by unripe or overripe fruits and vegetables and other unhealthful foods, and sometimes from overeating of perfectly healthful stuffs improperly cooked. In adults (in men especially) it is caused by overeating combined with the overindulgence in alcoholic liquors. Champagne and shellfish are often the cause, but plebeian beer, especially when slightly sour, is as liable to blame as its more aristocratic kinsman. Cold and moisture are likewise said to cause it in many cases.

**Symptomatology.**—Soon after an overindulgence or an exposure to wet and cold after a heavy meal, there is a sense of heaviness or distension in the region of the stomach; which may or may not be relieved by belching. In a few hours it will probably develop into a steady burning pain in the stomach and colicky pains in the upper bowels. As a rule, if the bowels move spontaneously these first symptoms pass away for a time. In from fifteen to eighteen hours, there will be severe pain and burning in the whole region, accompanied by nausea and vomiting and often diarrhea, the vomited matter generally being alkaline or neutral. Diarrheal dejections are frequent and are likewise apt to be alkaline.

**Physical examination.**—Palpation shows distension and gurgling of the upper abdominal region and great sensitiveness to pressure, and decided local heat.

**Temperature.**—Temperature is rarely 103° F., generally 102° F., rarely showing much diurnal variation, and its decline is rapid and steady.

**Diagnosis.**—As a rule diagnosis is easy. The differentiation from typhoid is not difficult, as the temperature in simple acute gastro-enteritis is at its maximum in almost as many hours as it takes typhoid days to develop, and it has none of its other clinical features. From simple acute gastritis it is more difficult to distinguish, but there is one symptom of gastro-enteritis that is wanting in simple acute gastritis; there are no colicky pains in the upper abdomen. While I have seen the temperature of simple acute gastritis as high as 105°, I have seldom met a case of gastro-enteritis much above 103°, and it seems less liable to become chronic.

**Clinical aspects.**—I will recite two cases to illustrate the clinical character of the ordinary cases that require treatment and management at our hands. As a rule I believe the management of a case of more importance than the mere treatment.

A few weeks ago a Mexican came to me and said that his six year old boy was not very well, and wished me to see him. I learned at this time that the boy had visited his grandfather the day before and had eaten freely of green grapes.

My first visit was at 9 A. M. and I found him apathetic, tongue thick and furred, pulse 120 per minute, temperature 103°, respiration 18; abdomen distended and soft, hot to touch. He made no complaint on firm pressure.

\* Read before the Santa Barbara County Society.